

ABSTRACT OF THE DISCLOSURE

A heat treatment apparatus has a controller (100) provided with a temperature estimator (110) for estimating a temperature of a wafer by detection signals of temperature sensors (S_{in} , S_{out}) and a temperature calibrator (120) for correcting the estimated temperature of the wafer. In order to calibrate the temperature, an offset value stored in an offset table (122) is used. The offset value is determined based on the relationship between film-thickness of films formed in an experimental heat treatment process and process temperatures.